

**We Claim:**

1. A terminal device for communicating data signals with a central communication device via a first data signal carrying line and a second data signal carrying line, the first data signal carrying line for transporting a first data signal and the second data signal carrying line for transporting a second data signal, the first and second data signals having equal content, the first data signal carrying line having a first signal propagation time and the second data signal carrying line having a second signal propagation time such that the first signal propagation time is shorter than the second signal propagation time, the terminal device including signal quality comparison means for determining a first signal quality of the first data signal and a second signal quality of the second data signal, for comparing the first and second signal qualities, and for accepting the one of the first and second data signals having better quality, the terminal device comprising:

a first data signal buffer for storing the first data signal during a first synchronization period in order to synchronize at least the reception of the first data signal and the second data signal.

2. The terminal device according to claim 1, wherein the first synchronization period equals the time difference between the second signal propagation time and the first signal propagation time.

3. The terminal device according to claim 1, further comprising:

a second data signal buffer for storing a third data signal during a second synchronization period to synchronize transmission of the third data signal with transmission of a fourth data signal,

wherein the third data signal is transmitted via the first data signal carrying line and the fourth data signal is transmitted via the second data signal carrying line, and wherein the third and fourth data signals have equal content.

4. The terminal device according to claim 3, wherein the second synchronization period equals the time difference between the second signal propagation time and the first signal propagation time.

5. The terminal device according to claim 1, wherein the terminal device is a protected optical network terminal in a protected optical network architecture, and

wherein the first data signal carrying line and the second data signal carrying line are optical network fibers.

6. The terminal device according to claim 1, wherein the central communication device includes a grant controller for controlling transmission of the first data signal from the terminal device by transmitting a first grant signal to the terminal device over the first data signal carrying line and for controlling transmission of the second data signal from the terminal device by transmitting a second grant signal to the terminal device over the second data signal carrying line, characterized in that,

the grant controller transmits the first and second grant signals at substantially the same instant in time to the terminal device.

7. A method for communicating data signals between a terminal device and a central communication device, via a first data signal carrying line and a second data signal carrying line, the first data signal carrying line for transporting a first data signal and the second data signal carrying line for transporting a second data signal, the first and second data signals having equal content, the first data signal carrying line having a first signal propagation time and the second data signal carrying line having a second signal propagation time such that the first signal propagation time is shorter than the second signal propagation time, the terminal device being operable for determining a first signal quality of the first data signal and a second signal quality of the second data signal, for comparing the first and second signal qualities, and for accepting the one of the first and second data signals having better quality, the method comprising:

receiving the first data signal from the central communication device;  
storing the first data signal in a first data signal buffer;  
receiving the second data signal from the central communication device; and  
holding the first data signal in the first data signal buffer during the first synchronization period to synchronize at least the reception of the first and the second data signals.

8. The method according to claim 7, further comprising:  
storing a third data signal in a second data signal buffer;

transmitting a fourth data signal to the central communication device via the second data signal carrying line; and

transmitting the third data signal to the central communication device via the first data signal carrying line after the second synchronization period in order to  
5 synchronize transmission of the third and fourth data signals.

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